

NOMENCLATURAL CHANGES IN THE PENTATOMIDAE  
(HEMIPTERA-HETEROPTERA)

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*Abstract.*—Numerous nomenclatural problems in the Pentatomidae (Heteroptera) are discussed and corrected. These corrections have necessitated one generic replacement name, *Keleacoris* for *Kelea* Schouteden, 1958, and seven specific replacement names: *Aelia chinensis* for *A. bifida* Hsiao and Cheng, 1978; *Aeliomorpha viridescens* for *A. viridis* Azim and Shafee, 1987; *Antestia dollingi* for *A. adspersa* (Fabricius, 1803); *Dicyotus walkeri* for *D. aequalis* (Walker, 1867); *Holcostethus mcdonaldi* for *H. piceus* (Dallas, 1851); *Menida signoreti* for *M. parvula* (Signoret, 1858); and *Sciocoris sahelensis* for *S. australis* Linnavuori, 1975. Ten new combinations are also recognized: *Basicryptus costalis ugandana* (Linnavuori, 1982), *B. striatus* (Linnavuori, 1982), *B. upembanus* (Linnavuori, 1982), *Dalsira dallasi* (Schouteden, 1912), *D. kocki* (Schouteden, 1962), *D. maboekana* (Linnavuori, 1982), *D. mulungwana* (Linnavuori, 1982), *D. niemboana* (Linnavuori, 1982), *Keleacoris congolensis* (Distant, 1910), and *Stalius castaneus* (Distant, 1893). One new generic synonym is proposed: *Papasia* China, 1962 as a junior synonym of *Trincavellius* Distant, 1900b.

*Key Words:* Pentatomidae, Heteroptera, nomenclature, systematics

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While preparing a catalog of the Pentatomidae of the world, we have discovered a number of nomenclatural problems that need to be corrected. We wish to keep the number of taxonomic changes in the catalog to a minimum, so these corrections are made herein, prior to the publication of the catalog.

I. ASOPINAE

*Oplomus festivus* Dallas, 1851

*Pentatoma marginalis* Westwood, 1837: 37.

[not Herrich-Schäffer, 1836, *Roferta*, (Pentatominae)]

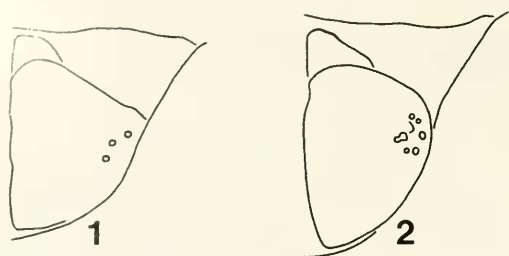
*Oplomus marginalis*: Dallas, 1851: 83;

Thomas, 1992: 54, 60-61.

*Oplomus rutilus* Dallas, 1851: 83-84.

*Oplomus festivus* Dallas, 1851: 85.

Herrich-Schäffer's *Pentatoma marginale* predates Westwood's usage of the binomen by a year. *Pentatoma marginale* Herrich-Schäffer has at one time or another been placed in the following genera: *Rhaphigaster* Laporte, *Strachia* Hahn, *Nezara* Amyot and Serville, and *Acrosternum* Fieber, and is currently a valid species in the genus *Roferta* Rolston. See Rolston and McDonald (1981) for the complete synonymy of *Roferta marginalis*. Nine different junior synonyms of *P. marginale* Westwood are available, the oldest being *Oplomus rutilus* Dallas, 1851: 83-84, and *O. festivus* Dallas, 1851: 85. There has been some confusion surrounding the name *rutilus*; the main source of which stems from the female type specimen. The type specimen of *festivus* is



Figs. 1-2. Right genital plates, caudo-ventro-lateral view. 1, *Stalius castaneus* (Distant). 2, *Stalius tartareus* (Stål).

a male, and there has been no problems associated with the identity of this taxon. Therefore, we select *Oplomus festivus* Dallas, 1851, as the replacement name for *Pentatoma marginale* Westwood, 1837.

## II. DISCOCEPHALINAE: OCHLERINI

### *Stalius castaneus* (Distant, 1893), NEW COMBINATION

*Melanodermus castaneus* Distant, 1893: 455.

This species was omitted from the junior author's (Rolston 1992) revision of Ochlerini. The species is known only from the female holotype, which was collected in Nicaragua. It is morphologically similar to *Stalius tartareus* (Stål) excepting the form of the basal plates, and these differ considerably (Figs. 1-2).

## III. PENTATOMINAE

### *Aelia chinensis*, NEW NAME

*Aelia bifida* Hsiao and Cheng, 1978: 326, 327, 328, figs. 4, 5, 10, 13. [not Costa, 1847, *Neottiglossa*]

Costa (1847) described, as *Aelia bifida*, a relatively common circum-Mediterranean species now in the genus *Neottiglossa* Kirby. The primary homonymy resulting from Hsiao and Cheng's (1978) description of *Aelia bifida* as a new species necessitates the above replacement name. *Aelia chinensis* occurs in China and Inner Mongolia.

### *Aeliomorpha viridescens*, NEW NAME

*Aeliomorpha* (*Distantiella*) *viridis* Azim and Shafee, 1987: 422-424, figs. E-H. [not Reuter, 1887, *Aeliomorpha*]

Reuter (1887) described *Aeliomorpha viridis* from Madagascar. Although Azim and Shafee (1987) placed their Indian *A. viridis* in a different subgenus, it is still a primary homonym and requires a replacement name.

### *Amyntor unicolor* (Walker, 1867), REVISED STATUS

*Halys* (*Dichelops*) *obscura* Dallas, 1849: 188, pl. 19 fig. 3. [not Westwood, 1837, *Sarju*; not Herrich-Schäffer, 1839, *Brochymena parva*]

*Amyntor obscurus*: Stål, 1867: 519; Stål, 1876: 107; Atkinson, 1888b: 154; Lethierry and Severin, 1893: 183; Distant, 1902: 144-145, fig. 85; Kirkaldy, 1909: 147; Zhang, 1985: 80-81, pl. 42 fig. 122; Hua, 1989: 43.

*Bolaca unicolor* Walker, 1867: 251; Atkinson, 1888a: 70; Lethierry and Severin, 1893: 161.

*Amyntor unicolor*: Distant, 1900a: 425, 431.

The binomen, *Halys obscura*, has been used on at least three separate occasions to represent three different species. Westwood (1837) first used the name for a species now contained in the halyine genus *Sarju*. The second species, described by Herrich-Schäffer (1839), now belongs in the halyine genus *Brochymena*, and was given the new name *B. parva* by Ruckes (1947). Finally, Dallas (1849) used *Halys obscura* to represent a species now residing in the genus *Amyntor*. The next available name is *unicolor* Walker, 1867; the proper combination, *Amyntor unicolor*, has been used only once (Distant 1900a).

### *Antestia dollingi*, NEW NAME

*Cimex adpersus* Fabricius, 1803: 175. [not Thunberg, 1784: 53, Coreidae]  
*Antestia adpersa*: Stål, 1868: 34.

Thunberg's (1784) usage of the binomen *Cimex adpersus* easily predates Fabricius' (1803) usage. *Cimex adpersus* Thunberg is probably a member of the family Coreidae. There are no currently known junior synonyms of *Cimex adpersus* Fabricius, 1803.

***Berecynthus hastator* (Fabricius, 1798),  
REVISED STATUS**

*Cimex delirator* Fabricius, 1794: 103. [not Fabricius, 1787, Coreidae]

*Cimex hastator* Fabricius, 1798: 532.

*Berecynthus delirator*: Stål, 1868: 26.

Fabricius described two different species under the binomen *Cimex delirator*. The first (1787) is a member of the family Coreidae and a junior synonym of *Zicca nigropunctata* (DeGeer); the second (1794) is a neotropical pentatomid. The next available name for this neotropical pentatomid is *Cimex hastator* Fabricius, 1798.

*Cosmopepla lintneriana* Kirkaldy, 1909

*Cimex carnifex* Fabricius, 1798: 535; Coquebert, 1801: 81; Fabricius, 1803: 117. [not Fabricius, 1775, Lygaeidae]

*Pentatoma bimaculata* Thomas, 1865: 455. [not Montrouzier, 1855: 98, *Hyrmine*]

*Cosmopepla lintneriana* Kirkaldy, 1909: 80 [New name for *Pentatoma bimaculata* Thomas, 1865]; McDonald, 1986: 4, 5, figs. 15–27.

*Cosmopepla bimaculata*: Van Duzee, 1917: 49; Stoner, 1920: 96–97; Blatchley, 1926: 152–153; Leonard, 1928: 82; McDonald, 1966: 25, 51; McPherson, 1982: 73–74; Froeschner, 1988: 574.

Kirkaldy (1909) considered the name *Pentatoma bimaculata* Thomas, 1865, to be preoccupied, but did not indicate the older synonym. He proposed the new name *Cosmopepla lintneriana*. No one followed Kirkaldy's recommendation except McDonald (1986) who indicated that *P. bimaculata* Thomas, 1865, was preoccupied by *P. bimaculata* Westwood, 1837: 8, 35. Froeschner (1988) argued correctly that *P. bimaculata* Westwood, 1837, was in fact a *no-*

*men nudum*. However, Montrouzier (1855) (see *Hyrmine sexpunctata bimaculata*, below) also described a *P. bimaculata*, predating Thomas' description by ten years. The next available name for *Cimex carnifex* Fabricius, 1798, is *Cosmopepla lintneriana* as was proposed by Kirkaldy (1909).

***Dictyotus walkeri*, NEW NAME**

*Pentatoma aequalis* Walker, 1867: 310–311. [not Say, 1831, *Hymenarcys aequalis*]

*Dictyotus aequalis*: Distant, 1900a: 388.

Say (1831) described as *Pentatoma aequalis* a North American species currently in the genus *Hymenarcys* Amyot and Serville. Later, Walker (1867) also described as *P. aequalis* an Australian species now placed in the genus *Dictyotus* Dallas. There is no recognized junior synonym of Walker's binomen to serve as the valid name. We therefore propose *Dictyotus walkeri*, new name, for *Pentatoma aequalis* Walker.

***Halyomorpha hasani*, NEW NAME**

*Halyomorpha punctata* Hasan, 1993: 210, 214–215, figs. 5A–H. [not Cachan, 1952, *Halyomorpha*]

Cachan (1952) described as *Halyomorpha punctata* a Madagascan species which is still regarded as a valid species in *Halyomorpha* Mayr. Hasan (1993) apparently overlooked this earlier description in describing his new species, *Halyomorpha punctata*; thus necessitating the above new name.

*Holcostethus* Fieber, 1860

*Holcostethus* Fieber, 1860: 79 [nomen nudum]; Fieber, 1861: 333.

*Peribalus* Mulsant and Rey, 1866: 237, 262.

*Dryocoris* Mulsant and Rey, 1866: 237, 267.

Ribes and Schmitz (1992) recently divided the well-known genus *Holcostethus* Fieber into two genera, based primarily on the

length and shape of the juga. Those species in which the juga do not meet in front of the tylus were retained in *Holcostethus*, while the remaining species were placed in *Dryocoris* Mulsant and Rey. Not only is the use of the generic name *Dryocoris* in error, but we also believe there is little merit in splitting the genus based upon the form of the juga.

*Dryocoris* was first proposed by Amyot (1845) in his monomial system to represent the single species, *Cimex sphaelatus* Fabricius, 1794. Ribes and Schmitz (1992) were mistaken in their claim that Amyot (1845) initially included three species in *Dryocoris*. Included within the synonymy of *Dryocoris* were *sphaelatus* Fabricius, 1794; *vernalis* Wolff?, 1804; and *baccarum* Amyot and Serville, 1843. Amyot (1845) tentatively (note question mark) placed *vernalis* as a junior synonym of *sphaelatus*, and *baccarum* Amyot and Serville is not an original description. The inclusion of *baccarum* Amyot and Serville indicates that Amyot believed Amyot and Serville had misidentified the true *baccarum* Linnaeus, 1758 (a member of the genus *Dolycoris*). One problem lies in the fact that apparently Amyot (1845) based his *Dryocoris* on a misidentified type species. He states that *Dryocoris* is similar to *Pentatoma* Olivier, except that the head is larger and more rounded, and the lateral lobes meet beyond the median lobe. The true *sphaelatus* has the jugal lobes shorter, not meeting beyond the tylus. At any rate, this initial use of *Dryocoris* is invalid because the entire work (Amyot 1845) has been officially placed upon the list of rejected works because it is largely monomial.

The first valid use of *Dryocoris* in a binomial is generally credited to Mulsant and Rey (1866), who used the name in place of *Holcostethus* Fieber, 1861, apparently recognizing Amyot's prior use of *Dryocoris*. Mulsant and Rey (1866) followed Amyot (1845) in including only one species within *Dryocoris*, that being *Cimex sphaelatus* Fabricius, 1794. *Dryocoris* should be cred-

ited to Mulsant and Rey, 1866, with *Cimex sphaelatus* Fabricius, 1794, the type species by monotypy.

*Holcostethus* was first described by Fieber in 1860 when it was included in a key to genera; no species were included, however, so this use is a *nomen nudum*. He re-described *Holcostethus* in 1861, and included three species: *jani* Fieber, *sphaelatus* (Fabricius), and *congenor* Fieber. Although he (1861) did not designate a type species for *Holcostethus*, Mulsant and Rey (1866) effectively fixed the type for both *Dryocoris* and *Holcostethus* when they treated the two names as synonyms, and included only *sphaelatus* within *Dryocoris*. Most recent workers have considered *sphaelatus* as the type species of *Holcostethus* (Kirkaldy 1909, McDonald 1974, Froeschner, 1988). *Dryocoris* is a junior synonym of *Holcostethus*.

Mulsant and Rey (1866) also described *Peribalus*, placing in it three species: *Cimex vernalis* Wolff, *Cimex distinctus* Fieber, and *Pentatoma inclusus* Dohrn. Stål (1872a) considered *Dryocoris* to be a junior synonym of *Peribalus*. This has led most recent workers to consider both *Dryocoris* and *Peribalus* as junior synonyms of *Holcostethus*. Kirkaldy (1909) fixed *vernalis* as the type species of *Peribalus*.

If *Holcostethus* is divided into two genera, based on the form of the juga, *Peribalus* should be used for those species in which the juga are contiguous anterior to the tylus. We believe, however, that the generic separation based upon this character is unwarranted. The form of the juga in some species is quite variable with different individuals exhibiting either character state. *Holcostethus* should remain as the valid name for the genus with *Dryocoris* and *Peribalus* as junior synonyms.

#### *Holcostethus macdonaldi*, NEW NAME

*Pentatoma picea* Dallas, 1851: 236. [not Palisot de Beauvois, 1817, *Antiteuchus*, (Discocephalinae)]  
*Peribalus piceus*: Uhler, 1886: 7; Gillette

and Baker, 1895: 16; Van Duzee, 1904: 34; Van Duzee, 1917: 33; Blatchley, 1926: 106.

*Holcostethus piceus*: Kirkaldy, 1909: 48; McDonald, 1974: 247, 252, figs. 36–43; McDonald, 1982: 5; McPherson, 1982: 48, 50; Froeschner, 1988: 581–582.

*Pentatoma picea* Palisot de Beauvois, 1817, easily predates Dallas's usage of the name. Palisot de Beauvois's species is a valid species in the discocephaline genus *Antiteuchus* Dallas. There is no available junior synonym for *P. picea* Dallas, 1851; therefore, we propose *Holcostethus macdonaldi*, new name.

*Hyrmine sexpunctata bimaculata*  
(Montrouzier, 1855)

*Pentatoma bimaculatum* Montrouzier, 1855: 98.

*Hyrmine 6-punctata* var. *montrouzierana* Kirkaldy, 1909: 115. [Unnecessary new name for *Pentatoma bimaculatum* Montrouzier, 1855]

Kirkaldy (1909) apparently believed *Pentatoma bimaculatum* Montrouzier, 1855 to be preoccupied by *P. bimaculata* Westwood (1837). As Froeschner (1988) argued, *P. bimaculata* Westwood, 1837, is a *nomen nudum* appearing in a list on page 8, and a simple note that it should be deleted as a variety of *P. obscurus* [the preceding species] on page 35.

***Keleacoris*, NEW NAME**

*Kelea* Schouteden, 1958: 128–130; Linnavuori, 1982: 153. [not Merrem, 1818, Aves]

Schouteden's (1958) usage of the generic name *Kelea* is preoccupied by the Avian genus *Kelea* Merrem, 1818. There is no available junior synonym, therefore we propose *Keleacoris*, new name. *Keleacoris* is currently monotypic, containing only *K. congolensis* (Distant, 1910), new combination.

***Menida signoreti*, NEW NAME**

*Rhaphigaster parvulus* Signoret, 1858: 289. [not Dallas, 1851, *Acrosternum*]

*Antestia parvula*: Stål, 1865: 211; Walker, 1867: 281.

*Menida parvula*: Stål, 1876: 99; Lethierry and Severin, 1893: 174; Kirkaldy, 1909: 133; Linnavuori, 1982: 158, 160, figs. 258e, f, 261c; Linnavuori, 1986: 131, 135, figs. 5a, 12c–f, 13a–f.

*Eurymenida parvula*: Ahmad and Mohamad, 1982: 12.

Dallas (1851) described *Rhaphigaster parvulus*, which now belongs in the genus *Acrosternum*. Thomas and Yonke (1990) speculated that it may actually be a synonym of the African species, *A. heegeri* Fieber. Because there are no available junior synonyms for *R. parvulus* Signoret, 1858, we propose *Menida signoreti* as a replacement name. *Menida signoreti* is distributed in the tropical areas of west Africa (Cameroon, Guinea, Liberia, Ivory Coast, Nigeria).

***Neococalus germari*, NEW NAME**

*Cimex leucogrammus* Germar, 1838: 179–180. [not Gmelin, 1790: 2131, *Ancyrosoma* (Podopinae); not Gmelin, 1790: 2165, Miridae]

*Sciocoris leucogrammus*: Herrich-Schäffer, 1844: 788–89, fig. 756; Dallas, 1851: 134; Walker, 1867: 174.

*Cocalus leucogrammus*: Stål, 1861: 200; Stål, 1865: 119–120; Stål, 1876: 54; Reuter, 1884: 6; Lethierry & Severin, 1893: 11; Distant, 1898: 316; Distant, 1901: 25; Schouteden, 1910: 80; Schouteden, 1912: 107; Villiers, 1952: 303, Villiers, 1954: 916.

*Neococalus leucogrammus*: Linnavuori, 1975: 31, 32, figs. 14c, 17bd; Linnavuori, 1982: 75, figs. 85b, 86d.

Gmelin (1790) actually used the binomen *Cimex leucogrammus* twice in his 13th edition of *Systema Naturae*. First, he proposed *Cimex leucogrammes* as a replacement

name for *Cimex albolineatus* Fabricius, 1781, which was preoccupied by *Cimex albolineatus* Goeze, 1778. Goeze's taxon is now a species in the Miridae; Fabricius' and Gmelin's taxon is a member of the podopine genus *Ancyrosoma* Amyot & Serville. Second, he used *Cimex leucogrammus* as the name for a new species of Miridae. Germar (1838) was apparently unaware of Gmelin's earlier uses of this binomen.

Distant (1898) placed *Sciocoris clausus* Walker, 1867, in the synonymy of *Neococalus leucogrammus*. All modern workers, however, have considered *N. clausus* and *N. leucogrammus* as distinct species (Leston 1952, 1953, Schouteden 1957, 1963, Linnavuori 1975, 1982). There are no other known junior synonyms of *N. leucogrammus*, thus necessitating the above new name.

***Piezodorus flavulus* (Stål, 1853),  
REVISED STATUS**

*Cimex pallescens* Germar, 1838: 175. [not Gmelin, 1790, Miridae; not Donovan, 1794, Miridae]

*Rhaphigaster pallescens*: Herrich-Schäffer, 1845: 7, 11–12; Walker, 1867: 363.

*Rhaphigaster flavulus* Stål, 1853: 221.

*Nezara* (*Piezodorus*) *pallescens*: Stål, 1865: 198.

*Piezodorus pallescens*: Stål, 1876: 100; Lethierry and Severin, 1893: 176; Kirkaldy, 1909: 136; Linnavuori, 1975: 123; Linnavuori, 1982: 147–148, figs. 235c, 236b, 237a.

The binomen *Cimex pallescens* has been used at least three separate times for the descriptions of three different heteropteran species. The first two (Gmelin 1790, Donovan 1794) are both members of the family Miridae, and both predate Germar's (1838) usage of the binomen for a pentatomid now placed in the genus *Piezodorus* Fieber. The next available synonym is *Rhaphigaster flavulus* Stål, 1853.

***Sciocoris sahelensis*, NEW NAME**

*Sciocoris australis* Linnavuori, 1975: 26–27, figs. 12a, b; Linnavuori, 1982: 65, 66, figs. a, b. [not Dallas, 1852, *Eribotes*]

Linnavuori (1975) apparently overlooked Dallas's (1852) original usage of the binomen *Sciocoris australis* when he described a new species by that name from Sudan. Dallas's species, described from Australia, now resides in the genus *Eribotes* Stål. There are no known junior synonyms of Linnavuori's species; therefore, we propose *Sciocoris sahelensis* as a replacement name.

***Thyanta humilis* Bergroth, 1891**

*Pentatoma patruelis* Stål, 1859: 226–227; Walker, 1867: 289. [not Stål, 1853, *Eudryadocoris goniodes*]

*Thyanta patruelis*: Stål, 1862: 58; Stål, 1872b: 35; Lethierry and Severin, 1893: 148; Kirkaldy, 1909: 95.

*Thyanta humilis* Bergroth, 1891: 225–226. *Thyanta* (*Argosoma*) *patruelis*: Rider and Chapin, 1991: 5, 6, 37–39, figs. 184–198.

Stål (1853) described *Pentatoma patruelis*, which is now a junior synonym of the African *Eudryadocoris goniodes* Dallas. He (1859) later described as *P. patruelis* a South American species that is now placed in the genus *Thyanta* Stål. The next available name is *Thyanta humilis* Bergroth, 1891.

***Trincavellius* Distant, 1900**

*Trincavellius* Distant, 1900b: 163.

*Papasia* China, 1962: 57–59. New synonymy.

Examination of Distant's (1900b) and China's (1962) descriptions, and included illustrations, leaves little doubt that *Trincavellius* Distant and *Papasia* China are synonyms. Although two of the three taxa belonging in *Trincavellius* were originally described in *Sciocoris* Fallén, this genus has generally been included within the nominate tribe of the Discocephalinae, rather than the pentatomine tribe Sciocorini. This

is probably because of the rather convex abdominal venter that differs from most sciororines. Other characters (shape of head, explanate anterolateral pronotal margins), however, are characteristic of the Sciororini. Additionally, most typical discocephaline characters are lacking. *Trincavellius* should, at least tentatively, be placed within the Sciororini.

At present, three specific taxa belong in *Trincavellius*, all of which are probably conspecific. We have examined a number of specimens from various locations in Chile and Peru, as well as a male syntype of *Sciororis kingi* Reed. All specimens examined are conspecific and differ in no appreciable manner from any of the species descriptions given by Butler, 1877 (*galapagoënsis*), Reed, 1898 (*kingi*), or China, 1962 (*ruckesi*). Any synonymization of specific names, however, should wait until appropriate type material can be examined.

#### IV. PHYLLOCEPHALINAE

*Basicryptus* Herrich-Schäffer, 1844 and  
*Dalsira* Amyot and Serville, 1843

*Dalsira* Amyot and Serville, 1843, originally contained two species, both new and both eligible as type species: *marginata* and *affinis*. Stål (1876) left only one of these two species in *Dalsira* by transferring *marginata* to *Basicryptus* Herrich-Schäffer, 1844 (type species *Cimex costalis* Germar, 1838, by monotypy). Kirkaldy (1909) created lasting confusion by selecting *marginata* as the type species of *Dalsira* and creating a new generic name, *Metonymia* (type species *Dalsira affinis* Amyot and Serville, 1843, by original designation), overlooking the fact that Distant (1902) had earlier fixed *affinis* as the type species of *Dalsira*. The effect of Kirkaldy's invalid action was to replace the name *Basicryptus* with *Dalsira*, and to apply the name *Metonymia* to those species previously placed in *Dalsira*. However, since both *Metonymia* and *Dalsira* have the same type species, *Metonymia* is an objective junior synonym of *Dalsira*,

while *Dalsira* as erroneously used by Kirkaldy is synonymous with *Basicryptus*.

The genera *Basicryptus* and *Dalsira* need revising, and the two lists that follow are based on literature.

These species and subspecies appear to belong in *Basicryptus*:

1. *albidicosta* (Walker, 1868)
2. *angulatus* Schouteden, 1909
3. *antennatus* Distant, 1892
4. *atricostata* (Distant, 1910)
5. *bohndorffi* Distant, 1890
6. *brunneus* Jensen-Haarup, 1931
7. *costalis* (Germar, 1838) [type sp.]
8. *costalis ugandana* (Linnavuori, 1982), new combination
9. *distinctus* (Signoret, 1851)
10. *eburnea* Jeannel, 1913
11. *elongata* Distant, 1892
12. *frenchi* Bergroth, 1895
13. *gibbosa* (Dallas, 1851)
14. *hutereaui* Schouteden, 1916
15. *irroratus* (Westwood, 1837)
16. *maindroni* Jeannel, 1913
17. *marginatus* (Amyot and Serville, 1843)
18. *masaicus* Jeannel, 1913
19. *nigrocinctus* Jeannel, 1913
20. *nigromaculatus* Schouteden, 1904
21. *pictus* Schouteden, 1916
22. *plicatus* (Reiche and Fairmaire, 1847)
23. *projectus* Distant, 1898
24. *rugicollis* (Westwood, 1837)
25. *rugosus* (Fabricius, 1803)
26. *striatus* (Linnavuori, 1982), new combination
27. *strigosa* (Burmeister, 1835)
28. *subtruncatus* (Walker, 1868)
29. *upembanus* (Linnavuori, 1982), new combination

These species appear to belong in *Dalsira*:

1. *affinis* Amyot and Serville, 1843 [type sp.]
2. *alata* (Distant, 1898)
3. *angolana* (Schouteden, 1962)
4. *asperata* Distant, 1889
5. *atricostata* Distant, 1910
6. *bigemmis* Bergroth, 1891

7. *brunni* Schouteden, 1904
8. *crassa* Distant, 1898
9. *dallasi* (Schouteden, 1912), new combination
10. *humeralis* (Walker, 1868)
11. *icterica* (Gerstäcker, 1892)
12. *kocki* (Schouteden, 1962), new combination
13. *lentiginosa* (Stål, 1852)
14. *longiceps* (Schouteden, 1910)
15. *mabokeyana* (Linnavuori, 1982), new combination
16. *maura* Distant, 1898
17. *modesta* (Fabricius, 1803)
18. *mulungwana* (Linnavuori, 1982), new combination
19. *niemboana* (Linnavuori, 1982), new combination
20. *otjimbora* (Hesse, 1925)
21. *overlaeti* (Schouteden, 1962)
22. *scabrata* Distant, 1901
23. *wagneri* Leston, 1952

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LITERATURE CITED

Ahmad, I. and F. A. Mohammad. 1982. A new species of the genus *Eurymenida* Berg. (Pentatomidae: Pentatominae: Menidini) from Pakistan with notes on their relationships. *Proceedings of the Entomological Society of Karachi* 11-12: 7-12. (1981.)

Amyot, C. J. B. 1845. *Entomologie Française*. Rhynchotes. Hémiptères. Homoptères. Phthiroptères. Pseudoptères. Méthode mononymique. *Annales de la Société Entomologique de France* 14: 369-492 + 8-9 pls.

Amyot, C. J. B. and J. G. A. Serville. 1843. *Histoire Naturelle des Insectes*. Hémiptères. Librairie En-

cyclopédique de Roret, Paris, lxxvi + 681 pp. + 12 pls.

Atkinson, E. T. 1888a. Notes on Indian Rhynchota: Heteroptera, No. 3. *Journal of the Asiatic Society of Bengal* 57: 1-72.

Atkinson, E. T. 1888b. Notes on Indian Rhynchota: Heteroptera, No. 4. *Journal of the Asiatic Society of Bengal* 57: 118-184.

Azim, M. N. and S. A. Shafee. 1987. Studies on Indian species of the genus *Aeliomorpha* Stål (Heteroptera: Pentatomidae). *Beiträge zur Entomologie* 37: 421-424.

Bergroth, E. 1891. Contributions à l'étude des Pentatomides. *Revue d'Entomologie* 10: 200-235.

Blatchley, W. S. 1926. Heteroptera or True Bugs of Eastern North America with Special Reference to the Faunas of Indiana and Florida. The Nature Publishing Company, Indianapolis. 1116 pp.

Butler, A. G. 1877. Account of the Zoological Collection made during the Visit of H.M.S. "Peterel" to the Galápagos Islands, X: Lepidoptera, Orthoptera, and Hemiptera. *Proceedings of the Entomological Society of London* 1877: 86-91.

Cachan, P. 1952. Les Pentatomidae de Madagascar (Hémiptères Hétéroptères). *Mémoires de l'Institut Scientifique de Madagascar* (E)1(2): 231-462, pls. VIXIV.

China, W. E. 1962. A new genus and species of Pentatomidae, Discocephalinae (Hemiptera Heteroptera) from S. Chile. *Annals and Magazine of Natural History* (13)5: 57-60.

Coquebert de Montbret, A. J. 1801. *Illustratio iconographica insectorum, quae in Musaeis Parisinis observavit et in lucem edidit Joh. Christ. Fabricius, praemissis eiusdem descriptionibus. Accedunt species plurimae, vel minus vel nondum cognitae*. P. Didot, Paris 2: 47-90 + 10 pls.

Costa, A. 1847. *Cimicum Regni Neapolitani*. *Atti dell' Reale Istituto d'Incoraggiamento alle Scienze Naturali, Centuria II, Decas sexta, septima, octava, nona, and decima*. Ministero de Stato degli Affari Interni, Napoli. 365-405 pp. + III-IV pls.

Dallas, W. S. 1849. Notice of some hemipterous insects from Boutan (East Indies) with description of new species. *Transactions of the Entomological Society of London* 5: 186-194.

———. 1851. List of the specimens of hemipterous insects in the collection of the British Museum. *British Museum ed., London*, 2 pts., 592 pp. + 15 pls.

———. 1852. Descriptions of some new species of hemipterous insects belonging to the tribe Scutata. *Transactions of the Entomological Society of London* 2: 6-17.

Distant, W. L. 1893. *Insecta*. Rhynchota, Hemiptera-Heteroptera, pp. xx + 329-462. *In* Godman, F. D. and O. Salvin, eds., *Biologia Centrali-Americana*.



- Taylor and Francis, London, vol. 1, xx + 462 pp. + 39 pls.
- . 1898. Rhynchota from the Transvaal, Mashonaland, and British Nyasaland. *Annals and Magazine of Natural History* (7)2(10): 294–316.
- . 1900a. Rhynchotal notes.—IV. Heteroptera: Pentatominae (part.). *Annals and Magazine of Natural History* (7)5(28–29): 386–397, 420–435.
- . 1900b. Undescribed genera and species belonging to the Rhynchotal family Pentatomidae. *Transactions of the Entomological Society of London* 1900(1): 163–174 + pl. 2
- . 1901. On the Rhynchota of the Congo region. *Annales de la Société Entomologique de Belgique* 45(1): 23–31.
- . 1902. Rhynchota.—Vol. I. (Heteroptera), pp. xxviii + 438. *in* Blandford, W. T., ed., *The Fauna of British India, including Ceylon and Burma*. Secretary of State for India. Taylor and Francis, London.
- . 1910. Rhynchotal notes.—LI. African Pentatomidae. *Annals and Magazine of Natural History* (8)6(31): 77–99.
- Donovan, E. 1794. *The natural history of British insects; explaining them in their several states, with the periods of their transformations, their food, oeconomy, etc. together with the history of such minute insects as require investigation by the microscope*. 3: 98 + 2 pp.
- Fabricius, J. C. 1775. *Systema entomologiae, sistens insectorum classes, ordines, genera, species, adjectis synonymis, locis, descriptionibus, observationibus*. Flensburgi et Lipsiae, Korte. xxxii + 832 pp.
- . 1787. *Mantissa insectorum sistens eorum species nuper detectas adjectis characteribus genericis, differentiis specificis, emendationibus, observationibus*. C. G. Proft, Hafniae. 382 pp.
- . 1794. *Entomologia systematica emendata et aucta secundum classes, ordines, genera, species adjectis synonymis, locis, observationibus, descriptionibus*. C. G. Proft, Hafniae. 4: i–vi + 472 pp.
- . 1798. *Entomologia systematica emendata et aucta, secundum classes, ordines, genera, species, adjectis synonymis, locis, observationibus*. Supplementum. Proft et Storch, Hafniae. ii + 572 pp.
- . 1803. *Systema Rhyngotorum secundum ordines, genera, species adjectis, synonymis, locis, observationibus, descriptionibus*. Carolum Reichard, Brunsvigae. x + 335 pp.
- Fieber, F. X. 1860. *Die europäischen Hemiptera. Halblflügler. (Rhynchota Heteroptera.)*. Nach der analytischen Methode bearbeitet. Carl Gerold's Sohn, Wien. vi + 1–112 pp.
- . 1861. *Die europäischen Hemiptera. Halblflügler. (Rhynchota Heteroptera.)*. Nach der analytischen Methode bearbeitet. Carl Gerold's Sohn, Wien, 113–444 pp.
- Froeschner, R. C. 1988. Family Pentatomidae Leach, 1815. The stink bugs, pp. 544–607. *in* Henry, T. J. and R. C. Froeschner eds., *Catalog of the Heteroptera, or true bugs, of Canada and the continental United States*. E. J. Brill, Leiden, New York. xix + 958 pp.
- Germar, E. 1838. *Hemiptera Heteroptera promontorii Bonae Spei, mundum descripta, quae collegit C. F. Drége*. *Revue Entomologique (Silbermann)* 5: 121–192.
- Gillette, C. P. and C. F. Baker. 1895. A preliminary list of the Hemiptera of Colorado. Colorado Agricultural Experiment Station, Bulletin Number 31, Technical Series Number I: 137 pp.
- Gmelin, J. F. 1790. *Caroli a Linne Systema Naturae, etc.* Lipsiae. Tome 1, Vol. 4: 2041–2224.
- Goeze, J. A. E. 1778. *Entomologische beyträge zu des ritter Linné zwölften ausgabe des natursystems*. Weidmanns Erben & Reich, Leipzig. Vol. 2: 72 + 352 pp.
- Hasan, S. A. 1993. Three new species of the genus *Halyomorpha* Mayr (Heteroptera: Pentatomidae: Pentatominae) from the Malayan subregion with phylogenetic considerations. *Pakistan Journal of Zoology* 25(3): 209216.
- Herrich-Schäffer, G. A. W. 1836. *Die Wanzenartigen Insekten*. C. H. Zeh'schen Buchhandlung, Nürnberg. Vol. 3: 17–114.
- . 1839. *Die Wanzenartigen Insekten*. C. H. Zeh'schen Buchhandlung, Nürnberg. Vol. 4: 93–108.
- . 1844. *Die Wanzenartigen Insekten*. C. H. Zeh'schen Buchhandlung, Nürnberg. Vol. 7: 41–134.
- . 1845. *Die Wanzenartigen Insekten*. C. H. Zeh'schen Buchhandlung, Nürnberg. Vol. 8: 1–48.
- Hsiao, T.-Y. and L.-I. Cheng. 1978. Notes on Chinese *Aelia* Fabr. (Heteroptera: Pentatomidae). *Acta Entomologica Sinica* 21(3): 325–328.
- Hua, L.-Z. 1989. List of insect specimens of Zhongshan (Sun Yatsen) University. Taxonomy Division, Institute of Entomology, Zhongshan University, Guangzhou, China. ii + 158 pp.
- Kirkaldy, G. W. 1909. *Catalogue of the Hemiptera (Heteroptera) with biological and anatomical references, lists of foodplants and parasites, etc.* Vol. 1. Cimicidae. Felix L. Dames, Berlin. xl + 392 pp.
- Leonard, M. D. 1928. A list of the insects of New York with a list of the spiders and certain other allied groups. Cornell University Agricultural Experiment Station Memoir 101. 1121 pp.
- Leston, D. 1952. Notes on the Ethiopian Pentatomidea (Hemiptera). V. On the specimens collected by Mr. A. L. Capener, mainly in Natal. *Annals and Magazine of Natural History* (12)5: 512–520.

- . 1953. Notes on the Ethiopian Pentatomoidea X. Some specimens from southern Africa in the South African Museum, with a note on the remarkable pygophore of *Elvisura irrorata* Spinola and description of a new species of *Piezodorus* Fieber. *Annals of the South African Museum* 51(2): 48–60.
- Lethierry, L. and G. Severin. 1893. Catalogue général des Hémiptères. Tome I Hétéroptères. Pentatomidae. F. Hayez, Académie Royale de Belgique, Bruxelles. x + 286 pp.
- Linnaeus, C. 1758. *Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Editio decima, reformata*. Laurentii Salvii, Holmiae, Vol. 1: 823 + 1 pp.
- Linnavuori, R. 1975. Hemiptera Heteroptera of the Sudan with remarks on some species of the adjacent countries. Part 5. Pentatomidae. *Boletim da Sociedade Portuguesa da Ciências Naturais* 15: 5–128.
- . 1982. Pentatomidae and Acanthosomatidae (Heteroptera) of Nigeria and the Ivory Coast, with remarks on species of the adjacent countries in West and Central Africa. *Acta Zoologica Fennica* 163: 1–176.
- . 1986. Studies on African Pentatomidae (Heteroptera). *Annales Entomologici Fennici* 52: 129–136.
- McDonald, F. J. D. 1966. The genitalia of North American Pentatomoidea (Hemiptera: Heteroptera). *Quaestiones Entomologicae* 2: 7–150.
- . 1974. Revision of the genus *Holcostethus* in North America (Hemiptera: Pentatomidae). *Journal of the New York Entomological Society* 82: 245–258.
- . 1982. Description of the male genitalia of *Holcostethus hirtus* (Van Duzee) with a revised key to North American species (Hemiptera: Pentatomidae). *Journal of the New York Entomological Society* 90: 5–7.
- . 1986. Revision of *Cosmopepla* Stål (Hemiptera: Pentatomidae). *Journal of the New York Entomological Society* 94: 1–15.
- McPherson, J. E. 1982. The Pentatomoidea (Hemiptera) of northeastern North America with emphasis on the fauna of Illinois. Southern Illinois University Press, Carbondale and Edwardsville. 240 pp.
- Merrem. 1818. In Ersch and Gruber, eds., *Allgemeine Encyklop. Wissenschaften Künste*, Section 1 (1), p. 338.
- Montrouzier, P. 1855. Essai sur la faune de l'île de Woodlark ou Moïou. *Annales de la Société d'Agriculture, Sciences et Industries de Lyon* (2)7: 1–114.
- Mulsant, E. and C. Rey. 1866. *Histoire Naturelle des Punaises de France. Pentatomides*. F. Savy and Deyrolle, Paris, 372 pp.
- Palisot de Beauvois, A. M. F. J. 1817. Insectes recueillis en Afrique et en Amérique, dans les royaumes d'Oware et de Benin, à Saint-Dominique et dans les Etats-Unis, pendant le années 1786–1797. Parts 9–10: 137–172.
- Reuter, O. M. 1884. Vetenskapliga meddelanden. Ad cognitionem Heteropterorum Africae occidentalis. Öfversigt af Finska Vetenskaps-Societetens Förhandlingar 25: 1–43.
- . 1887. Ad cognitionem Heteropterorum Madagascariensium I. Gymnocerata. *Entomologisk Tidskrift* 8: 77–109.
- Reed, E. C. 1898. *Vetenskaps-Chilena. Sinopsis de los Hemipteros de Chile. Primera parte: Heteropteros*. *Revista Chilena de Historia Natural* 2: 110–158.
- Ribes, J. and G. Schmitz. 1992. Révision du genre *Brachynema* Mulsant & Rey, 1852 (Heteroptera, Pentatomidae, Pentatominae). *Bulletin et Annales de la Société Royale Entomologique de Belgique* 128: 105–166.
- Rider, D. A. and J. B. Chapin. 1991. Revision of the genus *Thyanta* Stål, 1862 (Heteroptera: Pentatomidae) I. South America. *Journal of the New York Entomological Society* 99: 1–77.
- Rolston, L. H. 1992. Key and diagnoses for the genera of Ochlerini (Hemiptera: Pentatomidae: Discocephalinae). *Journal of the New York Entomological Society* 100: 1–41.
- Rolston, L. H. and F. J. D. McDonald. 1981. Conspectus of Pentatomini genera of the Western Hemisphere—Part 2 (Hemiptera: Pentatomidae). *Journal of the New York Entomological Society* 88(4): 257–272 (1980.)
- Ruckes, H. 1947. Notes and keys on the genus *Brochymena* (Pentatomidae, Heteroptera). *Entomologica Americana* 26: 143–238.
- Say, T. 1831. Descriptions of new species of heteropterous Hemiptera of North America. New Harmony Press, Indiana, 39 pp.
- Schouteden, H. 1910. *Wissenschaftliche ergebnisse der schwedischen zoologischen expedition nach dem Kilimandjaro, dem Meru und den Umgebenden Massaisteppen Deutsch-Ostafrikas 1905–1906 unter leitung von Prof. Dr. Yngve Sjöstedt*. 12. Hemiptera. 6. Pentatomidae. In Sjöstedt's Kilimandjaro-Meru Expedition. P. Palmquists Aktiebölag, Stockholm 12: 73–96.
- . 1912. Cimicidae, Coreidae, Reduviidae de la Region du Zoutpansberg (Transvaal). *Revue Zoologique Africaine* 2(1): 101–114.
- . 1957. Contributions à l'étude de la faune entomologique du Ruanda-Urundi (Mission P. Basilewsky 1953). CXXVI. Heteroptera, Platispidae, Acanthosomatidae, Pentatomidae et Coreidae. An-

- nales du Musée Royal du Congo Belge 58: 269–310.
- . 1958. Pentatominae novae africanae: II. = *Kelea* Schout. et *Euryaspis* Sign. Revue de Zoologie et de Botanique Africaines 48: 129–143.
- . 1963. Pentatomides de la Côte d'Ivoire—I. Revue de Zoologie et de Botanique Africaines 68(3–4): 397–402.
- Signoret, V. 1858. Hemipteres du Gabon. In Thomson, J., Archives entomologiques ou recueil contenant des illustrations d'insectes nouveaux ou rares. London. 2: 1–289.
- Stål, C. 1853. Nya Hemiptera fran Cafferlandet. Öfversigt af Kongliga Svenska Vetenskaps-Akademiens Förhandlingar 10: 209–227.
- . 1859. Hemiptera. Species novas descripsit. Kongliga Svenska Fregattens Eugenies Resa Omkring Jorden. III. (Zoologi, Insekter), 219–298 pp. + 3–4 pls.
- . 1861. Nova methodus familias quasdam Hemipterorum disponendi. Öfversigt af Kongliga Svenska Vetenskaps-Akademiens Förhandlingar 18: 195–212.
- . 1862. Bidrag till Rio Janeiro-traktens Hemipter-fauna. Kongliga Svenska Vetenskaps-Akademiens Handlingar 3: 1–75.
- . 1865. Hemiptera Africana. Vol. 1. Norstedtiana, Stockholm. iv + 265 pp.
- . 1867. Bidrag till hemipterernas systematik. Conspectus generum Pentatomidum Asiae et Australiae. Öfversigt af Kongliga Svenska Vetenskaps-Akademiens Förhandlingar 24: 501–522.
- . 1868. Hemiptera Fabriciana. Fabricianska Hemipterarter, efter de i Kopenhagen och Kiel Förvarade typexemplaren granskade och beskrifne. Kongliga Svenska Vetenskaps-Akademiens Handlingar 7: 1–148.
- . 1872a. Genera Pentatomidarum Europae disposuit. Öfversigt af Kongliga Svenska Vetenskaps-Akademiens Förhandlingar 19: 31–40.
- . 1872b. Enumeratio Hemipterorum. Bidrag till en förteckning öfver alla hittels kända Hemiptera, jemte systematiska meddelanden. 2. Kongliga Svenska Vetenskaps-Akademiens Handlingar 10: 1–159.
- . 1876. Enumeratio Hemipterorum. Bidrag till en förteckning öfver alla hittels kända Hemiptera, jemte systematiska meddelanden. Kongliga Svenska Vetenskaps-Akademiens Handlingar 14: 1–162.
- Stoner, D. 1920. The Scutelleroidea of Iowa. University of Iowa Studies. Studies in Natural History 8: 1–140 + 7 pls.
- Thomas, C. 1865. Insects injurious to vegetation in Illinois. Transactions of the Illinois State Agricultural Society 5: 401–468.
- Thomas, D. B. 1992. Taxonomic synopsis of the asopine Pentatomidae (Heteroptera) of the Western Hemisphere. Thomas Say Foundation Monographs. Vol. 16. 156 pp.
- Thomas, D. B. and T. R. Yonke. 1990. Review of the genus *Banasa* (Hemiptera: Pentatomidae) in South America. Annals of the Entomological Society of America 83: 657–688.
- Thunberg, C. P. 1784. Dissertations entomologica novae insectorum species sistens. Johan Edman, Upsaliae 3: 53–68.
- Uhler, P. R. 1886. Check-list of the Hemiptera-Heteroptera of North America. Brooklyn Entomological Society, Brooklyn, New York. iv + 32 pp.
- Van Duzee, E. P. 1904. Annotated list of the Pentatomidae recorded from America, north of Mexico, with descriptions of some new species. Transactions of the American Entomological Society 30: 1–80.
- . 1917. Catalogue of the Hemiptera of America north of Mexico, excepting the Aphididae, Coccidae and Aleurodidae. University of California Publications in Entomology 2: xiv + 902 pp.
- Villiers, A. 1952. La réserve naturelle intégrale du Mt. Nimba, fascicule 1. XIV. Hémiptères Hétéroptères terrestres. Mémoires de l'Institut Français d'Afrique Noire, no. 19: 289–309.
- . 1954. Hémiptères récoltés au Simandou (Guinée française) par M. Lamotte. Bulletin de l'Institut Français d'Afrique Noire 16: 913–916.
- Walker, F. 1867. Catalogue of the Specimens of Hemiptera: Heteroptera in the Collection of the British Museum. Part 2: 241–417. British Museum, London.
- Westwood, J. O. 1837. In Hope, F. W., ed., A Catalogue of Hemiptera in the Collection of the Rev. F. W. Hope, M. A. with Short Latin Diagnoses of the New Species. J. Bridgewater, London, Pt. 1: 46 pp.
- Wolff, J. E. 1804. Icones cimicum descriptionibus illustratae. J. J. Palm, Erlangan 4: 127–166 + 13–16 pls.
- Zhang, S.-M. 1985. Economic insect fauna of China. Fasc. 31, Hemiptera (1). Science Press, Beijing, x + 242 pp.